# Adolescent Immunizations

## Outline

- Adolescent Vaccines
- Adolescent AFIX
- Adolescent recall and its impact on immunizations
- National Immunization Survey results for 13-15 years

## Rationale for Tdap vaccine

- As kids get older, protection from DTaP wears off which makes adolescents vulnerable to pertussis, diphtheria and tetanus.
- Severity of pertussis in adolescents
  - It can cause complications like incontinency, rib fractures from severe coughing, hospitalization and death.
  - Up to 2 in 100 adolescents with pertussis are hospitalized or have complications including pneumonia and death.
  - Coughing fits from pertussis can take place for 10 weeks or more which can cause lengthy disruptions in school and other activities.
  - Preteens and teens with pertussis can unintentionally spread pertussis to infants around them and may help reduce the burden of severe infant pertussis cases.

## Tdap vaccination

- Tdap is recommended at 11-12 years of age for protection against pertussis, tetanus and diphtheria.
- Tdap should be given regardless of the interval since the last Td was given.
- A booster dose of Tdap is not recommended.
  - A booster dose of Tdap produced similar immune response as the first dose of Tdap.
- Required for middle school entry.

## Catch-up schedule for Tdap

- Administer 1 dose of Tdap to 13-18 year olds who have not received the vaccine.
- For unvaccinated kids 7 years and older
  - Administer a dose of Tdap
    - This is an off-label use of both Tdap vaccines but Adacel and Boostrix can both be given at age 7
  - Administer a dose of Td after 4 weeks
  - Administer a dose of Td after 6-12 months
- Td booster every 10 years after the first dose of Tdap.

## Rationale for meningococcal vaccine

- Adolescents have an increased incidence of meningococcal disease due to their age and lifestyle.
- College students, especially those who live in dormitories are at increased risk for meningococcal disease.
- Severity of meningococcal disease
  - 10%-14% of cases are fatal. In fatal cases, deaths can occur in as little as a few hours.
  - It can lead to brain damage, permanent hearing loss, learning disabilities, and loss of an arm or leg.

## Meningococcal vaccine

- Vaccines
  - Menactra licensed for 9 months to 55 years of age.
  - Menveo licensed for 2–55 years of age.
- Administer MCV4 at age 11 or 12 years with a booster dose at 16 years of age.
- Do not delay the booster dose.
  - When the booster dose is given 3-5 years apart there will be a stronger immune response and better protection through 21 years of age.
  - Protection from one dose of MCV vaccine wanes within 5 years.
- Required for middle school entry.
- Required for North Dakota college students ages 21 and younger living in dormitory.

## Catch-up vaccination for MCV

- Administer 1 dose at age 13 through 15 years if not previously vaccinated.
- For persons vaccinated at age 13 through 15 years administer a 1-time booster dose, preferably at or after 16 through 18 years of age.
- Healthy persons who receive their first routine dose of meningococcal conjugate vaccine at or after age 16 years do not need a booster dose.
- First year college students up to 21 years who are living in dormitory should be vaccinated if they have not received a dose on or after their 16 birthdate.

## Rationale for varicella vaccine

- Varicella tends to be more severe in adolescents and adults than in young children.
- The most common complications of varicella include:
  - Bacterial infections of skin lesions
  - Pneumonia
  - Infection or inflammation of the brain
  - Blood stream infections (sepsis)
  - Toxic shock syndrome
  - Death
- Some people with serious complications from chickenpox can become so sick that they need to be hospitalized.

## Varicella

- Vaccines
  - Varivax- minimum age is 12 months.
  - ProQuad (MMRV) is approved for children 12 months through 12 years of age.
- Kids should receive the 1st dose at 12-15 months and the second dose at 4-6 years of age.
- Required for school entry.

## Catch-up schedule for varicella

- Recommended for those who have not received the vaccine and have no documented history of disease.
- All persons 13 years of age and older without evidence of varicella immunity need two doses separated by at least by 4 weeks.
- The minimum interval between doses of varicella vaccine for children younger than 13 years of age is 3 months.

## Evidence of immunity for varicella vaccine

- Documentation of 2 doses of varicella vaccine given no earlier than 12 months of age, with at least 3 months between doses for children younger than age 13 years, or at least 4 weeks between doses for people age 13 years and older.
- U.S.-born before 1980*
- A healthcare provider's diagnosis of varicella or verification of history of varicella disease.
- History of herpes zoster, based on healthcare provider diagnosis.
- Laboratory evidence of immunity or laboratory confirmation of disease.
- Enter history of disease (exemption) to the NDIIS.

*Note: year of birth is not considered as evidence of immunity for healthcare personnel, immunosuppressed people, and pregnant women.

## What should I do if an unvaccinated person is exposed to chickenpox disease?

- Varicella vaccine is effective in preventing chickenpox or reducing the severity of the disease if used within 72 hours (3 days), and possibly up to 5 days, after exposure.
- However, not every exposure to varicella leads to infection, so for future immunity, varicella vaccine should be given, even if more than 5 days have passed since an exposure.
- The vaccine is given as prophylaxis if the individual has no evidence of immunity or unvaccinated and if exposure to varicella has not caused infection.

## Rationale for Human Papillomavirus Vaccine

- Human papillomavirus is the most common sexually transmitted infection.
- Most infected persons do not realize they are infected or that they are passing the virus on to a sex partner.
- Health consequences of HPV infection include:
  - Cervical cancer
  - Vulvar and vaginal cancers
  - Penile cancers,
  - Anal cancers in women and men
  - Oropharyngeal cancers in women and men
- HPV vaccines offer the best protection to girls and boys who receive all three vaccine doses and have time to develop an immune response before being sexually active.

## Human Papillomavirus Vaccine

- HPV4 (Gardasil) contains types 16 and 18 (high risk) and types 6 and 11 (low risk).
- HPV2 (Cervarix) contains types 16 and 18.
- Recommended at age 11-12 years for both girls and boys.
- Effective when given at age 11 and 12 and before exposure to the virus.
- Routine schedule is 0, 2, 6 months.
- The third dose should follow the first dose by at least 24 weeks and the second dose by at least 12 weeks.
- If the series is interrupted after the first dose, the second dose should be given as soon as possible, and the second and third doses should be separated by an interval of at least 12 weeks.

## Catch-up vaccination for HPV

- Catch-up vaccination recommended for females 13 through 26 years of age.
- Catch-up vaccination recommended for males 13 through 21 years of age.
- All immunocompromised males (including HIV infection) and men who have sex with men through 26 years of age should be vaccinated.
- In North Dakota, adolescents 14-17 years of age can receive HPV vaccine without parental consent.
  - When documenting a dose of HPV vaccine in the NDIIS record of 14-17 year old, you must indicate if parental consent was obtained.
  - If parental consent is "No," then the HPV doses will not show on the client's NDIIS Certificate of Immunization

## Tips to discuss HPV vaccine with parents

- CDC research shows
  - The "HPV vaccine is cancer prevention" message resonates strongly with parents. In addition, studies show that a strong recommendation from health-care providers is the single best predictor of vaccination.
- Try saying:
  - HPV vaccine is very important because it prevents cancer. I want your child to be protected from cancer. That's why I'm recommending that your daughter/son receive the vaccine today.

## Tips to discuss HPV vaccine with parents

- CDC research shows
  - Disease prevalence is not understood and parents are unclear about what the vaccine actually protects against.
- Try saying:
  - HPV can cause cancers of the cervix, vagina, and vulva in women, cancer of the penis in men, and cancers of the anus and the mouth or throat in both women and men. There are about 26,000 of these cancers each year and most could be prevented with HPV vaccine. There are also many more precancerous conditions requiring treatment that can have lasting effects.

## Tips to discuss HPV vaccine with parents

- CDC research shows
  - Parents want a concrete reason to understand the recommendation that 11–12 year olds receive HPV vaccine.
- Try saying:
  - We're vaccinating today so your child will have the best protection possible long before the start of any kind of sexual activity. We vaccinate people well before they are exposed to an infection as in the case with measles and the other recommended childhood vaccines. Similarly, we want to vaccinate children well before they get exposed to HPV.

## Tips to discuss HPV vaccine with parents

- CDC research shows:
  - Parents may be concerned that vaccinating may be perceived by the child as permission to have sex.
- Try saying:
  - Research has shown that getting the HPV vaccine does not make kids more likely to be sexually active or start having sex at a younger age.

## Tips to discuss HPV vaccine with parents

- CDC research shows:
  - Parents might believe their child won't be exposed to HPV because they aren't sexually active or may not be for a long time.
- Try saying:
  - HPV is so common that almost everyone will be infected at some point. It is estimated that 79 million Americans are currently infected with 14 million new HPV infections each year. Most people infected will never know. So even if your son/daughter waits until marriage to have sex, or only has one partner in the future, he/she could still be exposed if their partner has been exposed.

## Tips to discuss HPV vaccine with parents

- CDC research shows:
  - Emphasizing your personal belief in the importance of HPV vaccine helps parents feel secure in their decision.
- Try saying:
  - I strongly believe in the importance of this cancer-preventing vaccine and I have given HPV vaccine to my son/daughter/grandchild/niece/nephew/friend's children. Experts (like the American Academy of Pediatrics, cancer doctors, and the CDC) also agree that this vaccine is very important for your child.

## Tips to discuss HPV vaccine with parents

- CDC research shows:
  - Understanding that the side effects are minor and emphasizing the extensive research that vaccines must undergo can help parents feel reassured.
- Try saying:
  - HPV vaccine has been carefully studied by medical and scientist experts. HPV vaccine has been shown to be very effective and very safe. Like other shots, most side effects are mild, primarily pain or redness in the arm. This should go away quickly and HPV vaccine has not been associated with any long-term side effects. Since 2006, about 57 million doses of HPV vaccine have been distributed in the U.S. and in the years of HPV vaccine safety studies and monitoring no serious safety concerns have been identified.

## Tips to discuss HPV vaccine with parents

- CDC research shows:
  - Parents want to know that HPV vaccine is effective.
- Try saying:
  - In clinical trials of boys and girls, the vaccine was shown to be extremely effective. In addition, studies in the U.S. and other countries that have introduced HPV vaccine have shown a significant reduction in infections caused by the HPV types targeted by the vaccine.

## Tips to discuss HPV vaccine with parents

- CDC research shows:
  - Many parents do not know that the full vaccine series requires 3 shots. Your reminder will help them to complete the series.
- Try saying:
  - I want to make sure that your son/daughter receives all 3 shots of HPV vaccine to give them the best possible protection from cancer caused by HPV. Please make sure to make appointments on the way out, and put those appointments on your calendar before you leave the office today.

## Adolescent AFIX


- Web-based adolescent AFIX will start soon.
  - The AFIX assessment is for adolescents 13-15 years of age and involves HPV, MCV, varicella and Tdap vaccines.
  - The AFIX discussion is web-based and may take about 45 minutes.
  - Provides assessment on rates, missed opportunities, up-to-date and late up-to-date records.
  - Provides feedback on how to increase adolescent immunization rates.
  - Incentives may be given.
- Providers can sign up by emailing Rahel Gemmeda at rgemmeda@nd.gov

## Adolescent reminder and recall

- Recall: notification that immunizations are past due.
- Reminder: notification that immunizations are due soon.
- The NDIIS can run both recall and reminder data.
- The Immunization program is recalling 12-17 year old adolescents that are 30 or more days past due for Tdap, MCV4, varicella and HPV vaccines (if they ever started the HPV vaccine).
  - The recall is done using automated phone calls and mailed postcards.
  - Phone calls are made monthly and postcards are sent quarterly.
- Parents can opt-out from the recall by visiting the immunization program website at: www.ndhealth.gov/Immunize/

## Adolescent recall

- Reminder and recall notices are based on the Advisory Committee for Immunization Practice (ACIP).
  - Please do not use school requirements as a reference.
- So far 75,632 postcards were sent.
  - 257 postcards were returned due to unavailable addresses
- 87,850 automated phone calls were made.
- Wrong phone numbers are challenges for recall
  - About 15,000 had invalid phone number
  - About 10,000 kids have missing phone numbers
- 33 kids opted-out from the recall.
- 2281 kids were marked as Moved or Gone Elsewhere (MOGE).
- 1257 addresses were updated for kids who moved within ND.

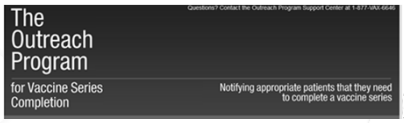
## How to improve reminder and recall?

- Update the NDIIS address and phone number of kids and adolescents at every visit.
- Please add the appropriate address and phone number for patients.
- Change the MOGE status of kids and adolescents who are no longer living in North Dakota.
  - Complete instructions on how to change a client's MOGE status can be found on the Immunization Program web site.
- Use the forecaster in the NDIIS to determine which vaccines kids and adolescents are due for when parents call for information.
- Report duplicate records to the immunization program.
- Enter varicella exemption (history of disease) to the NDIIS.
  - Improves your rates
  - Kids won't get recall for varicella if they had history of disease.
- Add historical data from the patient's record to the NDIIS.
  - Up-to-date adolescents have been recalled for the vaccines they have already received due to poor data entry in the NDIIS.

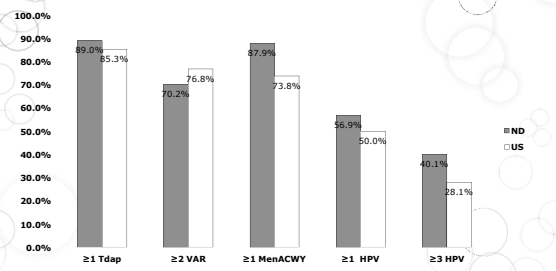
## What else can I do to remind patients about their immunizations?

Merck has a free reminder service. Providers can visit the program website at: www.vaccineoutreach.com/index.php and work with the program to improve their rates.

Please let the immunization program know if you will work with them.



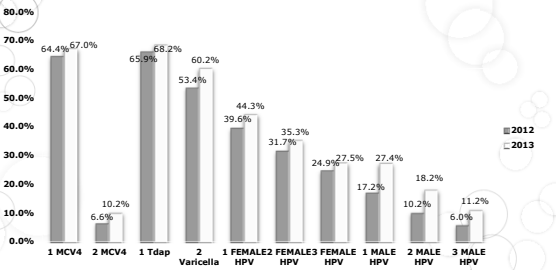
## NIS rates for US and ND (13-15) years




NIS- National Immunization Survey
HPV rates only include females

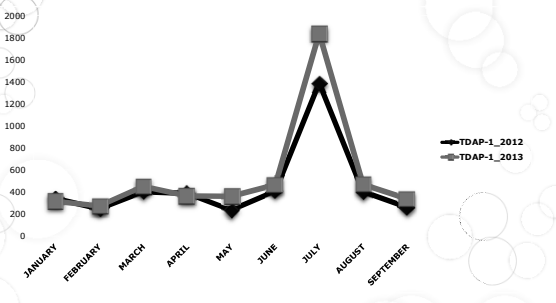
## The impact of adolescent recall on NDIIS immunization rates

The graph below compares the percent of adolescents up-to-date with each vaccine in 2012 and 2013.



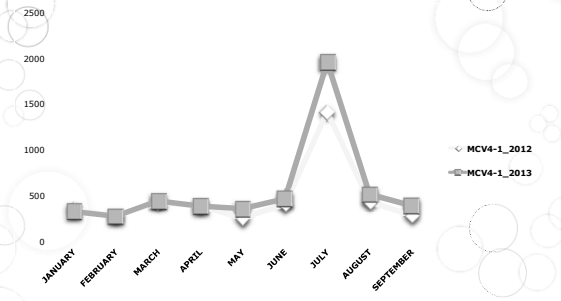

## The impact of adolescent recall on NDIIS immunizations

The graph below compares the number of adolescents who received a dose of Tdap vaccine each month in 2012 and 2013.



## The impact of adolescent recall on NDIIS immunizations

The graph below compares the number of adolescents who received their first dose of Meningococcal vaccine each month in 2012 and 2013.




## The impact of adolescent recall on NDIIS immunizations

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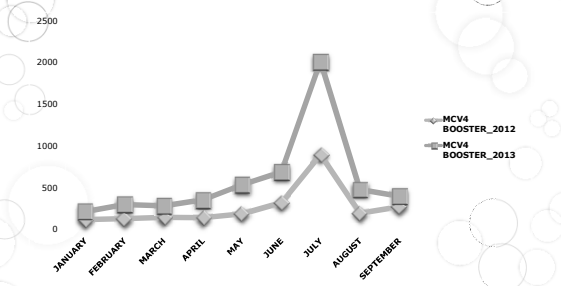
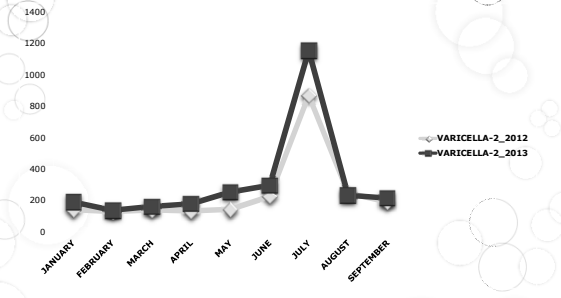


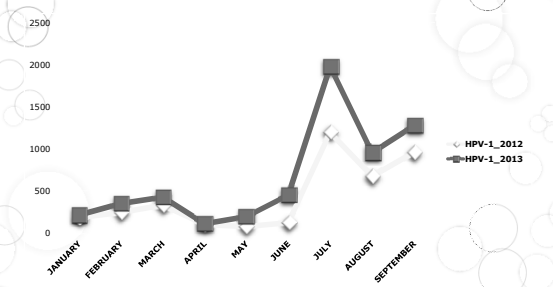

## The impact of adolescent recall on NDIIS immunizations

The graph below compares the number of adolescents who received their second dose of varicella vaccine each month in 2012 and 2013.



## The impact of adolescent recall on NDIIS immunizations

The graph below compares the number of adolescents who received their first dose of HPV vaccine each month in 2012 and 2013.




## The impact of adolescent recall on NDIIS immunizations

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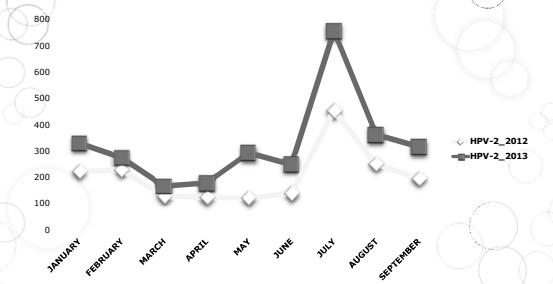
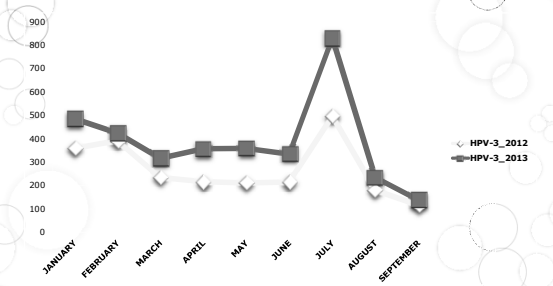



## The impact of adolescent recall on NDIIS immunizations

The graph below compares the number of adolescents who received their third dose of HPV vaccine each month in 2012 and 2013.



## Questions

**Type your question into either of the chat windows at your right.**

After the presentation, questions may be sent to:

| | |
|---|---|
| Molly Howell | mahowell@nd.gov |
| Abbi Pierce | apierce@nd.gov |
| Mary Woinarowicz | mary.woinarowicz@nd.gov |
| Janna Pastir | jlpastir@nd.gov |
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Or call 701.328.3386 to speak to someone in the Immunization Program

This presentation will be posted to our website: www.ndhealth.gov/immunize

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  - Successfully complete the five-question post-test to receive your certificate
  - **Credit for this session is only available until 5pm, December 3, 2013.**